U.S. Department of Energy

Tomorrow's Energy Today

for Cities and Counties

Linking Energy Use and City Planning

By considering energy in urban planning, city planners can improve the quality of life in their cities while providing significant dollar savings to city government, citizens, and the business community.

Cities and counties looking for ways to cut energy use and save energy dollars can choose from a dizzying variety of alternatives. Yet a growing number of city and county officials are asking, "Why be satisfied with piecemeal energy programs and isolated pockets of energy savings? Why not formally extend energy planning into *every* aspect of metropolitan life?"

Portland, Oregon, is one such city and is one of the nation's best examples of how energy planning can become an integral part of comprehensive urban planning. The benefits to Portland include energy dollar savings, air pollution and traffic congestion reductions, quality of life enhancements, and local economic stimulation.

Portland's approach to energy planning is the broad-ranging 1990 Portland Energy Policy. Under this policy, the city is improving energy efficiency in municipal buildings, residential buildings, commercial and industrial facilities, transportation, and energy supply. The policy also requires increased recycling, decreased waste, and the development of telecommunications as an energy-efficiency strategy.

Portland's ambitious urban energy planning targets a 10% increase in city-wide energy efficiency by the year 2000. This means a $100 million annual savings for the local economy by 2000.

Steve Terrill

Why Portland's Policy Succeeds

Portland's policy has clear goals. Overall, Portland has set a goal of increasing energy efficiency citywide by 10% by 2000. In dollars, Portland expects its total energy consumption in all sectors to reach $1 billion by 2000, so the energy-efficiency increase means that $100 million will be retained within the local economy. To achieve this energy-efficiency goal, the energy policy sets forth 53 two-year objectives and 36 long-term objectives.

Portland's policy has authority. The Portland Energy Office manages the day-to-day implementation of the policy. "The policy has given us credibility, a way of merging energy with other issues," says Energy Office Director Susan Anderson. "That's key, because people may not care

For every dollar the Portland Energy Office draws from the city's general fund, it brings in three dollars' worth of grants and contracts from government, utilities, and business.

City of Portland

Retrofits to the Portland Building provide one example of the City Energy Challenge program efforts that are aimed at saving $1 million annually by 1997.

about energy. But they do care about keeping their houses warm, getting to work, traffic congestion, affordable housing, air and water pollution, and economic development for business. Energy ties all of those individual issues together."

The energy policy was adopted as official city policy by a vote of the Portland City Council and was incorporated into the city's general plan. The Portland Energy Commission, made up of citizen volunteers appointed by the mayor and city council, actively oversees implementation and updating of the policy.

Converting Policy into Results

Merging energy into other issues, the Portland Energy Office plays a variety of roles. It identifies opportunities for energy-efficiency improvement and sources of funds to pursue these opportunities. The energy office is also an energy-related information clearinghouse. Its staff members provide consultations throughout the community. Sometimes the consulting is free. In other cases, energy office staff members are consultants for hire on projects affecting the city's energy consumption. In fact, the Portland Energy Office brings in three dollars' worth of grants and contracts for every dollar it draws from the city's general fund.

However, most of the energy policy implementation is not done by the energy office, according to Ms. Anderson. "Our primary role is to be the facilitator," she says. "We found some funds to convert seven city vehicles to natural gas, for example. Our job was to get other departments excited about it and up to speed on it, and then we got out of it." Through such efforts, most of the 53 two-year objectives were implemented by the end of 1992, with considerable progress toward many of the 36 long-term objectives.

Portland's City Government Is Involved

The City Energy Challenge program was launched in July 1992. The goal of this program was to identify and implement energy-efficiency projects that would cut $1 million from the city's annual energy bill by 1997. Based on energy costs to city facilities in 1991, which totaled $9.14 million, the $1 million reduction represents an 11% reduction in energy bills. To achieve this goal, the city imposed a 1% fee on all city government energy bills. Totaling about $70,000 per year, these fees were used to hire an energy management coordinator for city facilities. Result: by the end of 1992, Portland had already implemented measures or identified opportunities to save more than $775,000 annually.

Portland's Citizens Are Involved

The energy policy included plans to facilitate the weatherization of 8000 units in low-income, multifamily housing complexes by 1992 and 20,000 such units by 2000. By October 1992, Portland apartment owners had spent more than $6 million weatherizing some 8300 apartments. Working under contract with three local utilities and the Oregon Department of Energy, the Portland Energy Office recruited apartment owners for the program and helped them to apply for more than $2.9 million in utility and state cash rebates and tax credits. Buildings weatherized through this program achieved average energy savings of at least 26% on space heating. Also during this period, another 4000 apartments received energy audits and had weatherizing work in progress, and an additional 1300 apartments had energy audits pending.

Larry Geddis

Transportation is an important element of the Portland Energy Policy. The city's 15 miles of light-rail transit now carry some 25,000 riders per day. The energy policy is also influencing land use plans to focus development along transportation corridors.

Portland's Businesses Are Involved

The Portland Energy Office's BEST (Businesses for an Environmentally Sustainable Tomorrow) program provides consultants to help local businesses save energy, conserve water, reduce waste generation, and promote clean and efficient transportation. The program, begun in January 1992, was intended to help 50 businesses during its first year. By the end of 1992, it had helped 63. Through the BEST program, the Portland Energy Office helps businesses:

- Obtain energy design assistance
- Apply for state tax credits
- Obtain rebates and incentives offered by local utilities
- Select appropriate and energy-efficient technologies
- Get long-term, fixed-rate financing for energy projects
- Recycle construction waste
- Use water more efficiently
- Find transportation alternatives for employees
- Receive recognition as energy and environmental leaders.

How to Begin Developing a Municipal Energy Policy

How does a city create an energy policy and put it into action? Portland had a head start by virtue of a 1979 energy policy that created the Portland Energy Office. In fact, some of the energy-efficiency achievements that appear to result from the 1990 Portland Energy Policy actually result from efforts begun between 1979 and 1990.

The 1990 energy policy was created and adopted through a strategic planning process that provides a useful road map for other cities. This process resulted from work among Portland, San Francisco, and San Jose in 1989–1990, as part of the Sustainable Cities Project, funded by the U.S. Department of Energy through a cooperative agreement with the Urban Consortium Energy Task Force. The Sustainable Cities Project has produced a workbook, *Sustainable Energy: A Local Government Planning Guide for a Sustainable Future,* which summarizes the experiences of these cities in developing plans. The workbook provides the following suggestions:

(1) *Designate a lead office for your planning effort.* Leadership must come from one office, whether it is the planning office, the city manager's office, the energy office, or the environmental services bureau. Portland's lead was the Portland Energy Office.

(2) *Conduct an environmental scan,* collecting data on local factors such as climate, geography, population, transportation, housing, businesses, waste generation, and resource use. This step is essential for identifying opportunities and matching resources with technologies.

(3) *Identify major community goals and issues,* particularly those with energy or environmental impact. Make sure to link energy issues with community

goals. For example, lower energy bills can make housing more affordable, providing an additional incentive for the community to support a weatherization program. In addition, weatherization programs create local jobs and benefit the local economy through the purchase of weatherization materials.

(4) *Build community support* to establish allies and develop financial resources. Build support through task forces, meetings with citizens, informal networking, and meetings with business leaders, utilities, and interest groups. Conduct public meetings on the draft plan. Use public relations and media events. "One of the most difficult but important tasks," says Ms. Anderson, "is to enlist the aid of 'champions,' people respected in the business community and public arena who will endorse and help to sell your policy."

(5) *Identify and analyze energy plan options*—their costs, benefits, environmental effects, technological potential, and political acceptability. First, list all the tasks that need to be accomplished to improve energy efficiency. Next, choose the tasks that will produce the greatest benefit. Then screen them according to how well they apply to your community. *Sustainable Energy: A Local Government Planning Guide for a Sustainable Future* lists analytical and quantitative tools to aid in such analyses.

(6) *Write and adopt a plan.* Portland used a methodical participatory process to achieve consensus. A first draft policy was developed, and hearings were held by the Portland Energy Commission. Then the Portland Planning Commission reviewed the policy. Finally, the Portland City Council held hearings on the policy before voting to adopt it as formal city policy.

(7) *Implement the plan.* Start with achievable goals with available resources and support, but avoid short-term thinking. Concentrate on projects that will produce the greatest impact. Depending on the project, an energy planner may look for grants or contracts from utilities, government energy or health and social service departments, private foundations, or local corporations.

(8) *Evaluate and update.* Portland's Energy Policy is a living document; short-term plans are reevaluated and updated every 2 years, and long-term plans every 5 years.

Conclusion

Urban areas now contain about 85% of the U.S. population. Urban energy and dollars can be saved in areas such as transportation; industrial processes; and building heating, cooling, and lighting. At the same time, cities can improve the efficiency of their urban systems, protect their quality of life from problems such as pollution and traffic congestion, *and* improve the local economy.

Urban governments can choose which of these goals they want to tackle through piecemeal energy-efficiency programs. But the growing costs and problems associated with uncontrolled energy consumption call urgently for comprehensive planning. An energy policy is the critical link between the dream of controlling energy costs and the reality of well-designed and effectively executed urban energy planning. ■

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